

Technical Data Sheet

Type: ESTANE® S160D is a Shore 63D, polyester based thermoplastic polyurethane (TPU).

Uses: Injection Molding

Physical Properties	Standard No.	Units	Value
Hardness	ASTM D2240	Shore A Shore D	63
Specific Gravity	ASTM D792	g/cm ³	1.25
Mechanical			
Tensile Stress:	ASTM D412	kgf/cm ²	
At 100% elongation			220
At 300% elongation			350
Tensile Strength	ASTM D412	kgf/cm ²	450
Ultimate Elongation	ASTM D412	%	480
Tear Resistance (Die C)	ASTM D624	kgf/cm	230
Abrasion Loss	ISO 4649	mm ³	25
Compression Set			
At 23°C X22hr		%	20
At 70°C X22hr		%	45
Mold Shrinkage	ASTM D955	m/m	0.007
Thermal			
Vicat Softening Temperature	ASTM D1525	°C	158

*Test samples were annealed at 100°C and 24 hours at room temperature before testing.

**These are typical values and should not be used for specifications.

Injection Molding Guide

These settings are to be used only as a guide. This is a typical injection molding temperature profile based on the Test Machine (conditions based on a 75 ton machine with a general purpose screw – L/D 17 – Ø 35mm). The optimal run conditions for specific equipment will vary depending on the machine and mold design.

Drying Conditions

Drying	Conditions
Recommend 1	70-80°C for 4-5 hours by dehumidifying dryer

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Injection Conditions

Barrel Temperature	
Feeding Zone	200~215
Metering Zone	210~225
Nozzle	215~230
Injection Conditions (I)	
Injection Pressure (psi)	1800~2400
Injection Speed	Moderate
Hold pressure (psi)	1300-1900
Injection Time(s)	12-18

Mold Temperature	
	10-40
Injection Conditions (II)	
Back Pressure (psi)	30-80
Screw Speed (rpm)	160-200
Cycle Time(s)	25-30

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